STATE OF CALIFORNIA

ENERGY COMMISSION

Implementation of Renewables Legislation (Public Utilities Code sections 399 through 399.9 [SB 1194, AB 995])	**) Docket No. 00-REN-1194** **) COMMITTEE WORKSHOP** **) Re: 2006 Renewable Energy** **) Investment Program**

COMMENTS OF

SUNRAY ENERGY, INC.

NOVEMBER 21, 2005

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I. INTRODUCTION

Sunray Energy, Inc. ("Sunray") respectfully submits the following comments to the California Energy Commission (Commission) in response to the 2006 Renewable Energy Investment Plan Staff Draft (Investment Plan) required by Senate Bill 1194 (SB 1194, Statutes of 2000, Chapter 1050, Sher) and Assembly Bill 995 (AB 995, Statutes of 2000, Chapter 1051, Wright) as codified in Public Utilities Code Section 399, et seq.

Sunray is the owner and operator of the Solar Electric Generating Systems ("SEGS") I and II facilities in Daggett, CA. The SEGS facilities comprise 44 of the 354 megawatts of installed parabolic trough solar thermal electric generating capacity located in California. Together, these solar facilities make up the largest solar powered electric generating system in the world. Building and maintaining solar facilities that still represent the gold standard in solar technology is not an inexpensive proposition--the SEGS I and II plants alone cost over $150 million to construct. Thus, Sunray and the developers of SEGS I and II have made a large investment in California's renewable energy infrastructure and hope to remain in operation for another 20 or more years. As the Commission considers how to help new renewable technologies, Sunray hopes it will also remember that the SEGS facilities have provided reliable and environmentally beneficial electric generation to Southern California residents for almost two decades.

II. COMMENTS

Sunray strongly opposes the proposal to reduce the allocation of funds to the existing renewable facilities program by 50 percent, and in particular to the proposal that would eliminate the modest but important incentive payments that existing solar facilities such as Sunray's rely upon. In Chapter 4 of the draft Investment Plan, Commission Staff proposes to eliminate incentive payments for all existing renewable facilities except solid-fuel biomass. It is hard to understand the logic of the proposal to end incentive payments to facilities such as those owned and operated by Sunray. Not only do these existing renewable facilities represent proven technologies, but they are currently providing valuable capacity and energy to all California consumers. Further, these incentive payments are badly needed to keep existing solar capacity on-line. As discussed more fully below, Sunray has seen some of its costs rise by more than 50 percent in just 3 years while its electricity revenues have actually declined. In Sunray's case, its current time-period weighted average electricity rate of 3.088 cents (2005) per KWh makes it almost impossible for the company to buy fuel, make needed repairs and continue operating. Thus, far from an unneeded subsidy, the $400,000 in incentive payments that Sunray receives each year is a lifeline. These incentive payments provide the only significant source of funds available to make long term plant improvements and essential repairs.

The importance of continuing funding for existing renewable facilities, and in particular the funds received by Sunray, cannot be overestimated. At a time of rising energy prices and potential shortages, existing resources such as SEGS I and II provide

much needed renewable electricity to the State. They are also proven technologies and provide a renewable generation base that the Commission and consumers rely on. Although it is important to encourage new technologies, it should not be at the expense of the existing facilities that are the backbone of California's renewable energy present and future. It would also represent the worst possible public policy to divert funding to new technologies, most of which will take many years to come on-line, while existing renewable facilities, such as Sunray's, are deprived of the small but important incentives needed to keep them operational.

Sunray urges Commission Staff to revise the Investment Plan to reinstate incentive payments for existing renewable facilities, and in particular for its solar thermal generating facilities. Significantly, existing solar facilities such as SEGS are far more threatened today than when the State's renewable energy laws were enacted. Also, the incentive payments that were helpful to Sunray in prior years are essential today. Due to high costs, particularly natural gas prices, Sunray has had to close down one of its two solar plants for over two months and it is likely that this plant will have to remain off-line for another two months as well. This is because the high cost of natural gas, its supplemental fuel, far exceeds the energy revenues that Sunray receives. The loss of incentive payments would make Sunray's financial situation far worse, jeopardizing the only funds it has available to make required improvements and plant repairs.

A. The Proposal To Eliminate Incentive Payments To Facilities Such As SEGS I and II Is Inconsistent With The Letter And Intent Of State Law

The proposal to eliminate incentives to existing solar facilities is also directly contrary to the stated intent of State law. At Section 383(c) of the California Public Utilities Code, the need to support existing solar thermal technologies is clearly stated:

> § 383(c) Supporting the operations of existing innovative solar thermal technologies that provide essential peak generation and related reliability benefits.

In addition, through adoption of the Reliable Electric Service Investments Act (RESIA), codified as Pub. Util. Code Section 399, the California legislature directed the CEC to create an investment plan to "create a fully competitive and self-sustaining California renewable energy supply." Pub. Util. Code Section 399 (c) 4 establishes that it is essential that prudent investments continue to be made to achieve a sustainable supply of renewable energy.

Pub. Util. Code Section 399.6 (a) further directs the CEC to create an investment plan to govern the allocation of funds with the goal of allowing a fully competitive and self-sustaining California renewable energy supply. Pub. Util. Code 399.6 (c) (6) specifically instructs the CEC to recommend payment incentive allocations among "[s]olar thermal generating resources that enhance the environmental value or reliability of the electrical system and that require financial assistance to remain economically viable, as determined by the Energy Commission." Sunray has received payment incentive allocations every year since 2002 and is a 44 megawatt facility. Sunray's increased costs and reduced revenues have placed it in the grim financial position

discussed in these comments. Thus, consistent with the letter and intent of State law, and pursuant to Pub. Util. Code 399.6 (c) (6), the CEC must reinstate incentive payments to Sunray if it finds that the Company is economically threatened by the loss of these incentive payments. A shown below, that is most certainly the case.

B. Sunray's Discounted Contracts, Coupled with Increased Costs, Do Not Provide Sufficient Revenue to Cover Needs.

Although Sunray currently has a Power Purchase Agreement (PPA) with Southern California Edison (Edison), the PPA is not a standard offer contract and has a discount price that is substantially below the 5.37 cent/KWh price that most other renewable energy facilities with PPAs receive. As such, the SEGS facilities receive substantially less than Edison's short run avoided cost (SRAC) price for their electricity production.[1] From 2002-2005, the actual average time-weighted energy price that the Sunray facilities received was 2.903 cents/kWh. This discounted contract price has contributed to a decrease in Sunray's revenues of almost 10 percent over the years 2002-2005.

The Commission has recognized that facilities with discounted contracts should be eligible for higher incentive payments than those facilities with Standard Offer contracts.[2] Pursuant to Section 15, 383.5 c(2)(C) of SB 1038, "The Energy Commission may establish a different incentive rate within the same technology tier to account for discounted contracts." Thus, the policy of the State is to recognize the special hardship faced by facilities, and in particular Sunray, that must operate under long-term and deeply

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[1] The energy prices that Sunray receives for its facilities varies each month based upon a discounted gross domestic product, a discounted energy price and discounted natural gas prices.

[2] 2002 Renewable Investment Plan.

discounted contracts. In fact, the Commission has fully considered this issue and properly concluded that facilities such as SEGS, which operate under deeply discounted contracts, face substantial hardships and thus both need and should receive incentive payments.

While Sunray's actual revenues dropped between 2002 and 2005, and its price for energy remains far below the Edison SRAC price, Sunray's operating costs have risen dramatically. Between 2002 and 2005, the price Sunray paid for natural gas more than doubled, equating to an increase of over $1 million in the price of fuel necessary to operate the SEGS systems. In fact, Sunray's fuel costs were over $712,000 in 2002 but in 2005 totaled more than $1.8 million.[3] Additionally, costs for electricity purchases needed to operate the SEGS plants have risen almost 25 percent (23.98 percent) over the same period. To illustrate the impact that decreased revenues and increased costs have had on Sunray, the Company was recently forced to cancel its property, boiler and machinery insurance policy. Sunray was simply unable to afford the cost of this basic insurance due to the fact that its revenues have decreased by over 10 percent at the same time that its fuel and other operating costs have greatly increased. Thus, incentive payments from the Renewable Energy Program are not only very helpful to keep existing resources online but for projects such as Sunray's they are crucial to continued operation.

Although Sunray supports the Commission's position of encouraging renewable energy facilities, this should not be done at the expense of existing facilities like SEGS I

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[3] The use of some natural gas at the SEGS I facility is essential to the parabolic trough solar technology used at the plant.

and II. These facilities have demonstrated their reliability and value to consumers over many years. Due to high natural gas prices, increased operating costs and reduced revenue, however, Sunray both warrants and needs the Commission's continued support.

C. Contrary To Staff's Assumption, Older Solar Facilities Still Require Incentive Payments To Operate

Staff points to two new solar facilities contracts that do not require incentive payments as an indication that existing solar thermal electric facilities should not require incentive payments. As the draft states, "Compared to new facilities, existing solar thermal electric facilities built in the 1980's should have lower costs because payments for capital cost debt should be nearly complete."[4] This assumption is perhaps reasonable on its face but is not in fact correct. First, although Sunray and other older solar facilities may have lower levels of debt than they did when constructed, they also have much higher fuel, operating and maintenance costs. Unlike a new facility, Sunray must constantly invest in upgrades and repairs. For example, Sunray has recently had to replace and overhaul turbines, replace equipment essential to operating the facilities, upgrade the computer software needed to control the solar fields, add a mirror support system, make vacuum pump repairs and make other ongoing repairs and upgrades essential to keeping the SEGS facilities operating at the levels required by Edison and that is needed by consumers. Thus, although debt levels have been reduced over time Sunray's costs continue to rise, more than offsetting any perceived debt service savings.

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[4] 2006 Renewable Energy Investment Plan, Staff Draft Report, Nov. 2005 at 29.

Second, the high cost of natural gas has particularly damaged Sunray because it must use natural gas to operate SEGS I. In contrast, many newer technologies do not require the use of natural gas to operate. The SEGS I facility is hardest hit by high natural gas prices because it was designed so that the solar steam would be superheated with natural gas. The solar field heats the transfer fluid to 500 degrees Fahrenheit and natural gas is used to super heat the steam to 740 degrees Fahrenheit (the required turbine inlet temperature). Therefore, in order for SEGS I to even operate it must use a significant quantity of natural gas. Similarly, SEGS II also needs to use natural gas to satisfy the high performance requirement established in its contract with Edison during peak periods.[5] To illustrate that lower debt does not directly translate to lower costs, the SEGS I unit is currently off-line and also could not operate in October because the high price of natural gas has made operations cost-prohibitive. SEGS I is also not expected to operate during the months of November, December and January. Most newer solar facilities benefit from technologies that significantly reduce or even eliminate the need for high-priced natural gas. Whatever savings Sunray has realized due to capital cost reductions have been offset by reduced electricity sales revenues and high fuel and other operating costs.

Third, most new renewable energy facilities receive significantly higher energy prices than those received by Sunray. In fact, no new solar facilities could even operate on the approximate 3 cent energy price received by Sunray. This also means that

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[5] For example, natural gas use is needed at SEGS II during peak periods when there are cloudy days or other periods when there is reduced solar insolation.

consumers financially benefit by the continued operation of SEGS. Although lower debt service costs, coupled with capacity payments and CEC incentive payments, have allowed Sunray to remain in operation, despite receiving below-market energy prices, the record high natural gas prices and the increased repairs/upgrades required for its older facilities, mean that the Company has been stretched to its financial limit. Thus, the loss of the incentive payment would be a crippling blow to Sunray.

If the incentive payment is eliminated, SEGS I would have to operate in far fewer months, due to fuel costs that exceed energy revenues, and both facilities would be put in jeopardy due to an inadequate revenue stream. At present, the incentive payment of 1 cent/KWh, although relatively modest, is essential to Sunray's operations. The CEC incentive payment also provides the only significant funds available for required equipment upgrades, replacement and repairs at the SEGS plants.

The Incentive Plan proposal to increase payments to emerging renewables, including new solar thermal electric generating facilities, by completely eliminating funding for existing solar facilities would establish the worst possible policy. As indicated above, Sunray has been forced to reduce its solar power generation due to rising natural gas and other costs and the elimination of payment incentives will just exacerbate this problem, resulting in further reductions in solar generation. The loss of generation from a well established facility--with emerging solar generation incapable of promptly

filling that void--would reduce, not enhance, solar capabilities in California. This result contradicts the Commission's policy of increasing solar power generation in California.[6]

D. The Commission Should Balance The Need To Maintain Existing Solar Generation With The Desire To Encourage New Technologies

The reasoning that financial incentives to existing solar facilities, such as SEGS, can be eliminated because California utilities have recently signed contracts for new solar generating projects is fundamentally unbalanced and ignores several important factors. First, it would be counter productive to spend large sums of money on potential new technologies while withdrawing the relatively small sums needed to keep existing and proven solar technologies operating. With just a modest incentive payment investment, these existing plants and technologies can continue to provide reliable renewable generation to the State for another 20 or more years.

Second, all that the utilities have today is contracts for the possible development of several solar facilities based on highly experimental technologies. Although Sunray certainly agrees that the Stirling dish and several other new solar technologies show promise and should be encouraged, it must also be remembered that at present these solar technologies operate only in a research and development mode. There is not even one commercial size, privately funded Stirling dish facility in existence today. Further, in the case of the solar contract signed by Edison, the only immediate commitment by the parties to this agreement is to build a small (under 5 MW) demonstration project using

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[6] See Id. at 24 (referring to the California Solar Initiative).

the Stirling dish technology. Thus, although there is potential, it is also unknown if anything more than a small experimental project will actually be developed.

Third, no one knows when and if these new solar facilities will be built, what costs or problems they may encounter, whether financing can be secured for the projects and if they will in fact serve as a second generation to the existing and highly successful parabolic trough solar thermal systems. It is important to remember that many highly promising projects are never built or experience unanticipated problems and costs. That is why it is essential to both encourage new development while also providing incentives to preserve the State's existing solar infrastructure. Sunray would argue that it is the only way that the State can meet its 20 percent (or higher) renewable energy goals.

Finally, the cost to preserve the existing solar infrastructure is relatively low. According to the Draft Report, existing solar thermal facilities received approximately $1.5 million in incentive payments in 2004. Of this amount, the SEGS facilities received approximately $400,000 in incentive payments. Sunray would submit that this is a very small price to pay to preserve over 354 megawatts of installed generating capacity that provides reasonably priced, peak generation to California consumers. Further, it is unclear how Staff reached the conclusion that existing solar generation "should have lower costs" but it is certainly not true for the Sunray facilities. Although debt service costs have decreased at many of these facilities, they have been more than offset by high fuel costs, the high system replacement and repair costs experienced by older generating facilities, and by locked-in energy revenues below market price.

E. The One Cent/kWh Incentive Payment Has Allowed Sunray To Make Necessary Technological Improvements And Repairs

Sunray received approximately $400,000 in incentive payments annually over the years 2002-2005. This amounts to one cent/kWh and approximately 2 percent of the incentive payments made by the Commission to existing tier renewable facilities.[7] These relatively small payments nonetheless have provided the only significant source of revenue available to Sunray to make required solar system upgrades and essential repairs. Because Sunray's power sales revenues have remained flat while its fuel and other costs have more than doubled in the past 3 years, incentive payments have provided an essential lifeline for needed technological upgrades, essential replacements and repairs. In fact, they have been the only funding available for these improvements.

A few examples of the improvements that Sunray has been able to implement as a result of the CEC incentive payments include turbine overhauls, vacuum pump repairs to help improve power block efficiency, cooling tower and boiler repairs to improve efficiency, the purchase of computers, new software to control solar fields, additional heat transfer fluid to help reduce solar field freezing in the winter, a mirror support system to reduce mirror breakage in the field, test monitoring equipment to improve the solar field performance, and a reverse osmosis unit to reduce water and chemical use. Thus, it is clear that the incentive payments have not only been helpful to Sunray financially but critical to keeping its solar facilities operating. The incentive payments have also allowed Sunray to make at least some replacements and efficiency

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[7] Id. at 29 (Recent Incentive Payments to Eligible Existing Renewable Energy Facilities).

improvements needed to keep the SEGS facilities producing electricity anywhere near their capacity.

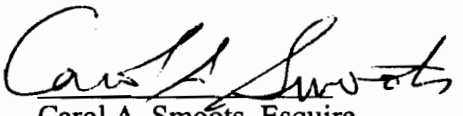
Similarly, the loss of these incentive payments would be financially devastating to Sunray. Sunray has already had to curtail operations at one of its two solar facilities for over two months, due to high fuel costs, and anticipates that SEGS I will need to remain out of service for at least January and February, 2006 as well. (Certainly no facility can afford to operate when its fuel costs exceed its energy revenues.) If the CEC terminates the incentive payments this will be a serious financial blow to Sunray, all technological improvements will have to be terminated immediately and any emergency will endanger continued operations at the facilities.

III. CONCLUSION

Sunray urges the Commission to reinstate incentive payments for existing renewable energy resources in its 2006 Renewable Energy Investment Plan. Sunray supports the Commission's policy of providing incentives to eligible facilities while they transition to a competitive market but urges the Commission to consider the fact that many existing facilities operate under low-priced contracts and Sunray in particular receives energy payments that are far below even the SRAC price. Because of increased operating costs, the high price of natural gas and reduced electricity sales revenues Sunray warrants continued support in order to continue providing solar power to California.

Sunray appreciates the opportunity to provide these comments and looks forward to working with the Commission regarding this matter.

Respectfully Submitted,



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